

WHAT IS CLAIMED IS:

1. A method for fabricating a gasket for fuel cells, comprising the steps of:
 - 5 grinding two kinds of rubbers having different hardness into a first and a second rubber powders each having a certain average size;
 - mixing the ground rubber powders with a liquid rubber;
 - spraying the mixed liquid rubber onto a surface of a rigid plate moving through a container based on a spray method in order for the mixed liquid rubber to be coated on the surface of the rigid plate uniformly;
 - 10 vulcanizing the rigid plate on which the first rubber powder and the second rubber powder are coated; and
 - cutting the rigid plate on which the vulcanized first and second rubber powder are coated.
- 15 2. The method according to claim 1, wherein said first rubber powder is formed of a material having a hardness of Shore A 25~50 (HS) and a diameter of 0.15~0.3mm, and said second rubber powder is formed of a material having a hardness of Shore A 60~80 (HS) and a diameter of 0.1~0.15mm.
- 20 3. The method according to claim 1, wherein said rigid plate is formed of a fabric group having fiber with a glass transition temperature (Tg) of 120°C~150°C, and a melting temperature (Tm) of 200°C~250°C, or a plastic film, or a metal plate, wherein said fabric group, plastic film or metal plate has a thickness of 0.2~0.3mm.
- 25 4. The method according to claim 1, wherein said first rubber powder and said second rubber powder are mixed at a volume ratio of 6~7 : 4~3, respectively.
- 30 5. A method according to claim 2, wherein said first rubber powder and said second rubber powder are mixed at a volume ratio of 6~7 : 4~3,

respectively.

6. The method according to claim 1, wherein said liquid rubber has a viscosity of 1,000,000 ~ 3,000,000 cp and is coated on the rigid plate with a
5 thickness of 0.05~0.1mm.

7. The method according to claim 1, wherein said second rubber powder is a plastic powder having a hardness of Shore D 30~60 (HS).

10 8. The method according to claim 2, wherein said second rubber powder is a plastic powder having a hardness of Shore D 30~60 (HS).

9. A gasket for fuel cell, the gasket comprising a mixture that is formed of a first rubber powder, a second rubber powder and a liquid rubber having
15 different hardness and diameters, which is coated on a surface of a rigid plate, and is vulcanized.

10. A gasket according to claim 9, wherein said first rubber powder is formed of a material having a hardness of Shore A 25~50 (HS) and a diameter of
20 0.15~0.3mm, and said second rubber powder is formed of a material having a hardness of Shore A 60~80 (HS) and a diameter of 0.1~0.15mm.

11. A method for fabricating a gasket for fuel cells, comprising the steps of:
25 providing a first rubber powder having a first average size and hardness and a second rubber powder having a second average size and hardness, wherein the first powder has a hardness (Shore A) lower than the hardness of the second powder, and an average diameter greater than the average diameter of the second powder;

30 mixing the ground rubber powders with a liquid rubber to form a mixed liquid rubber composition;

providing a rigid substrate having a thickness between about 0.2 to

about 0.3mm;
coating the mixed liquid rubber composition onto at least one surface of
the rigid substrate; and
vulcanizing the coated substrate.

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12. The method according to claim 11, wherein said first rubber powder is
formed of a material having a hardness of Shore A 25~50 (HS) and a diameter of
about 0.15 to about 0.3mm, and the second rubber powder is formed of a
material having a hardness of Shore A 60~80 (HS) and a diameter of about 0.1 to
10 about 0.15mm.

13. The method according to claim 11, wherein said rigid substrate
comprises a fabric having polymeric fiber with a glass transition temperature of
about 120°C to about 150°C and a melting temperature of about 200°C to about
15 250°C.

14. The method according to claim 11, wherein said rigid substrate
comprises a plastic or a metal plate.

20 15. The method according to claim 11, wherein said first rubber powder and
said second rubber powder are mixed at a bulk volume ratio of 6~7 : 4~3,
respectively.

25 16. The method according to claim 11, wherein said liquid rubber has a
viscosity of about 1,000,000 to about 3,000,000 cp, and wherein the mixed liquid
rubber composition is coated on the rigid substrate with a thickness of about
0.05 to about 0.1mm.

30 17. The method according to claim 11, wherein said second rubber powder
is a plastic powder having a hardness of Shore D 30~60 (HS).

18. The method according to claim 11, wherein said first rubber powder is formed of a rubber material having a hardness of Shore A 25~50 (HS) and a diameter of about 0.15 to about 0.3mm;

wherein said second rubber powder is formed of a rubber material
5 having a hardness of Shore A 60~80 (HS) and a diameter of about 0.1 to about 0.15mm, or a plastic powder having a hardness of Shore D 30~60 (HS), or a mixture thereof, wherein the hardness of the second powder is greater than the hardness of the first powder;

wherein said liquid rubber has a viscosity of about 1,000,000 to about
10 3,000,000 cp, and wherein the mixed liquid rubber composition is coated on the rigid substrate with a thickness of about 0.05 to about 0.1mm; and

wherein said rigid substrate comprises a polymer with a glass transition temperature of about 120°C to about 150°C and a melting temperature of about 200°C to about 250°C, or a metal.

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19. A gasket for fuel cell, wherein said gasket is formed by the method of claim 11.

20. A gasket for fuel cell, wherein said gasket is formed by the method of
claim 18.